1883MNRAS..43..382C

The Nucleus of the Great Comet (b) 1882.
By A. Ainslie Common.

When this comet was first seen on the morning of Sept. 17, 1882, before perihelion, the nucleus appeared, when viewed with a 6-inch Helioscope, to be large, bright, and quite round, with a diameter of about 45″; although this is only an estimation by comparison with a spot then seen on the Sun, it is possibly not very much in error. The tail was then very bright, and had the appearance shown in the sketch No. 1, which is a copy of the sketch made at the time of the observation, Sept. 16, 23^h to 24^h. Clouds prevented the further observation of the comet, and it was not seen again until Oct. 3, and then only for a short time.

On the morning of Oct. 30 the comet came within reach of the 3-foot reflector, when the nucleus had the appearance of a line of light about 58″ in length; no particular condensation of this line was then noticed, but the morning was not very good, and the time of observation cut short by clouds. On the following morning this line of light was seen clearly divided in its length by a gap in the middle; the edges of this gap were much brighter than the other parts, and formed, as it were, two nuclei, the following one being the brightest. At 17^h 36^m (Oct. 30, 1882), the distance between the centres of these nuclei was 11″. At 17^h 41^m the position angle of the line of light forming the head of comet was 115° 5′, and its width about 10″.

The sketch No. 2 shows the appearance on this morning.

On Nov. 1, at 17^h 2^m, the appearance of the comet was, with a low power, like the great nebula in *Andromeda*, excepting that the centre was condensed to a line of light; with higher powers, the comet appeared as seen the morning before. At 17^h 18^m, the position-angle of head was 117° 5′, and the breadth of the head or line of light 11″, the length being 100″.

On Nov. 2, at 17^h 2^m, a bending of the head was noticed concave to the north, and a slight brightening of the *following* end of the head having the appearance of another nucleus.

Subsequent observations on Nov. 5, 8, 9, 10, and 17 did not show any remarkable change, but on these days eye-observations were confined to hasty looks in the intervals of photographic experiments.

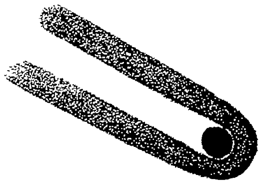
On Jan. 27, 1883, when the comet was visible in the evening, observations between 8^h 52^m and 9^h 25^m showed a remarkable change in the head of the comet; with a low power on a small telescope, and also with the 3-foot, the appearance was that of a long, brightish nebula, no tail being easily traced. With high power on the large telescope, five points of light became visible in the head, and a slight extension on the following side showing the tail. These points of light were in a straight line, and sur-

1883MNRAS..43..382C

S

1

1882, Sept. 16th.

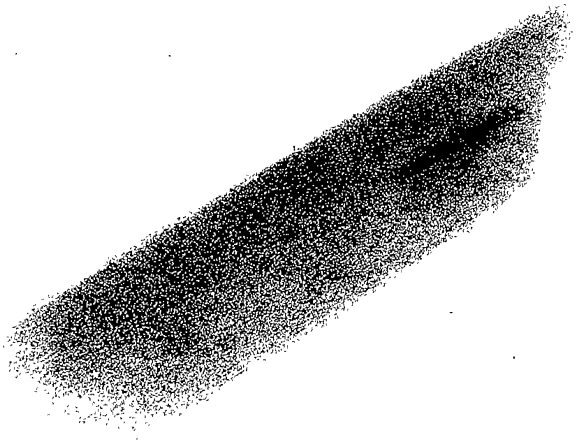


2

1882, Oct. 30th.

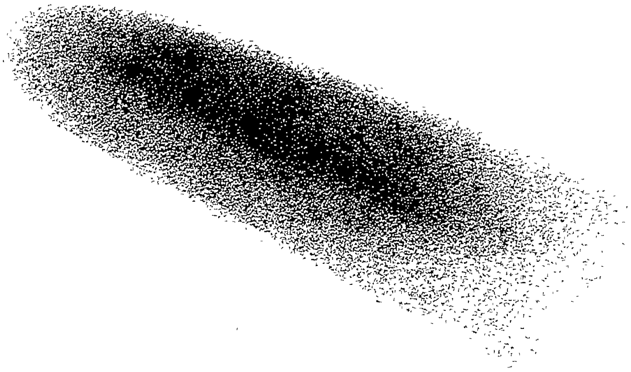
P

F



3

1883, Jan. 27th.



N

W.H. Wesley lith.

The great Comet (b) 1882.
A. A. Common.

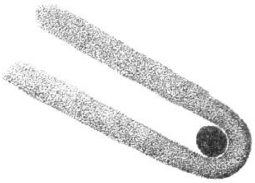
West, Newman & Co imp.

1883MNRAS..43..382C

Monthly Notices of R. Astronomical Society.

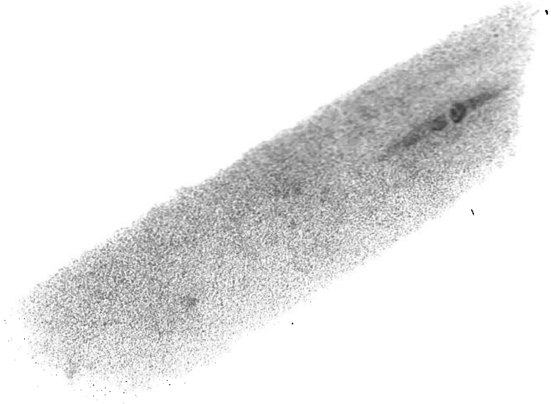
1

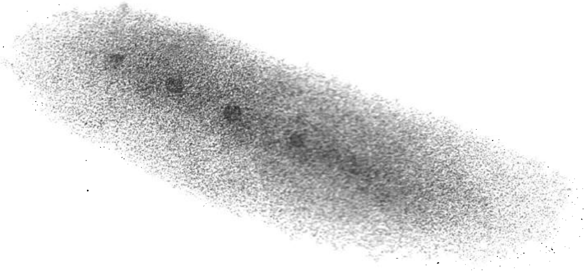
1882, Sept. 16th.



2

1882, Oct. 30th





3

1883, Jan. 27th.

The great Comet (b) 1882.

A. A. Common.

W. H. Wesley lith.

West, Newman & Co imp.

1883MNRAS..43..383T

rounded with a faint haze, fading away into the sky, the south side being the brightest or most easily seen.

Taking the sketch 3, and starting from the preceding side, and calling the five points *a*, *b*, *c*, *d*, *e*, the order of brightness was: *b* and *c* equal, and equal to 11 mag. stars; *a* and *d* about one third as bright, and *e* faintest. The distance between *b* and *c* was 31″·5. The distance between *a* and *e* was 135″·5. The position-angle of the line formed by the 5 points was 240° 20′.

On Jan. 30 a short view of the comet was obtained, when the appearance was unaltered. Position-angle of *b* and *c*, 245° 5′.

On Feb. 5 the comet was well seen about 80″ north of an 11 mag. double (position 256° 50′, distance 5″). The point *c* was the brightest, otherwise the relation was the same.

The position-angle of the two points was, at $8^h\ 56^m$, 246° 15′.

On Feb. 24 the comet was well seen, $8^h\ 15^m$ to $8^h\ 35^m$. The position-angle of the two brighter points, *b* and *c*, was 256° 22′ (mean of 4 measures).

The line of points or nuclei was noticed as concave to the N.; the order of brightness was as on last observation—*c* brightest, then *b*, *d*, *a* and *e*; the distance from *b* to *c*, a mean of 3 measures, gave 33″·13.

From Jan. 27 to Feb. 24 the general appearance was much the same. On the first-named day a faint star was noticed *p.* the first nucleus in such a position that it might be taken for another nucleus symmetrically placed with regard to the others, but the motion of the comet proved it to be a star.

On Feb. 24 I strongly suspected another nucleus following the last in order, and in such a position that it would be symmetrically placed. This, however, may have been a star. The comet was bright enough to be well seen, and it is only owing to the limit of my view that further observations have not been made.

1883, *May*.

Post-Perihelion Observations of the Great Comet (*b*) 1882.

By John Tebbutt.

The only accurate observations I was enabled to obtain of the Great Comet previously to its perihelion passage are those recorded in the *Monthly Notices* for November last. I have several absolute extra-meridian determinations of position on the day before perihelion, and on subsequent days, but as these can be depended on only to the nearest minute of arc they are scarcely worth publication. Of the post-perihelion positions now sent the first four depend on the 3-inch Transit Instrument. As bright stars were observed in sunlight, when possible, in combination with the comet, the deduced Right Ascensions on the